

REMARKS

Favorable reconsideration of this application, in light of the following discussion, is respectfully requested.

Claims 1-5 and 7-9 are pending.

Entry of Amendment under 37 C.F.R. § 1.116

The Applicant requests entry of this Rule 116 Response because: the response was not earlier presented because the Applicant believed in good faith that the cited references did not disclose the present invention as previously claimed.

I. Rejection under 35 U.S.C. § 103

In the Office Action, at page 3, numbered paragraph 4, claims 1-5 and 7-9 were rejected under 35 U.S.C. §103(a) as being unpatentable over Applicant's Related Art in view of Japanese Patent 2002-183974 to Mato et al. and in further view of Japanese Patent 2000-030369 to Motohashi et al. This rejection is respectfully traversed because the combination of the teachings of the Related Art, Mato and Motohashi does not suggest:

...recording data on the optical disc upon determining that the optical disc is not formatted;

checking a state of the optical disc in a recording management area in which disc information is recorded, the checking including checking a recording management area to determine whether the disc is Fully Blanked or Minimally Blanked, the disc indicating to be Minimally Blanked when a value '04' is designated at a field 0 of the recording management area, the disc indicating to be Fully Blanked when a value '04' is not designated at the field of 0 of the recording management area;

erasing, after the checking and after recording the data, data ranging from a next writable address to a predetermined block;
and

recording a remainder of the data other than the recorded data, after the erasing,

as recited in independent claims 1 and 4.

The present invention of claims 1 and 4, for example, is directed to method of recording data on a Minimally Blanked disc in an Incremental Recording Mode (i.e., a mode in which data is partially recorded), such that data is partially recorded, and then a remainder of the data other than the recorded data is recorded after a portion of data is erased. The present invention of

claims 1 and 4 addresses the problem that data is not recordable in the Incremental Recording Mode on a Minimally Blanked disc.

The Examiner alleges that the Related Art in Fig. 1 and paragraph 0008 of the present disclosure discloses checking a recording management area to determine whether the disc is fully blank or minimally blank. However, the Related Art discloses determining whether the disc is in a fully blank state or not, but does not disclose checking the recording management area to make a determination as to whether or not the disc is fully blank or minimally blank.

Even assuming, *arguendo*, that the Related Art did disclose checking a recording management area to determine whether the disc is fully blank or minimally blank, the combination of the teachings of the Related Art, Mato and Motohashi still does not suggest recording data in an incremental recording mode (i.e., a mode in which data is partially recorded) if the disc is not fully blank.

In Mato, in order to record a packet on a minimally blank disc, the type of an optical disc is determined, a disc is fully blanked or minimally blanked according to the determination, and when the disc is minimally blanked, an identification code and a special pattern are recorded in the circumference of a lead-out region. The identification code and the special pattern are used to determine that the disc is minimally blanked and the packet is written onto the minimally blanked disc.

However, the claimed invention recites "recording data on the optical disc upon determining that the optical disc is not formatted;...and recording a remainder of the data other than the recorded data, after the erasing." Thus, the claimed invention recites an incremental recording mode in which data is partially recordable.

According to a problem in the prior art, only a new disc or a fully blanked disc can be used in the incremental recording mode. An optical disc on which data is recorded more than once can be used in the incremental recording mode only after the optical disc is fully blanked for more than one hour, requiring a long time to fully blank the disc.

In Mato, an incremental recording mode is not disclosed and a disc is fully blanked or minimally blanked according to the type of the disc.

However, in the claimed invention, a value stored in a field 0 of the recording management area of a disc is used to determine whether the disc is minimally blanked, and data of a block is erased in order to record the data onto the minimally blank disc.

Mato discloses a minimally blank process in paragraphs 0007 and 0009, cited by the Examiner, whereas the present invention of claim 1, for example, recites a method of recording data on a minimally blank disc in the incremental recording mode irrespective of the minimal blanking process.

In Motohashi, an optical disc track is divided into a plurality of packets in order to search for a final packet of the optical disc track on which data is recorded when data is additionally recorded, a predetermined number of erasure blocks are recorded onto the end of a final block of the final packet on which the data is recorded, and the erasure blocks are recognized as the final packet. Motohashi does not disclose determining whether a disc is minimally blanked in the incremental recording mode and erasing a predetermined block of data.

Combining the Related Art, Mato and Motohashi does not suggest all the features of independent claim 1, for example. In particular, the Related Art is directed only to determined whether the optical disc is fully blanked or not and recording data if it is fully blanked and displaying a recording error if it is not fully blanked. The Related Art thus teaches that if the optical disc is not fully blanked, data is not able to be recorded on the disc. The Related Art therefore clearly teaches away from the applicant's invention.

"A reference may be said to teach away when a person of ordinary skill, upon reading the reference, would be discouraged from following the path set out in the reference, or would be led in a direction divergent from the path that was taken by the applicant." *In re Gurley*, 27 F.3d 551, 553 (Fed. Cir. 1994); *Para-Ordnance Mfg., Inc. v. SGS Importers Int'l., Inc.*, 73 F.3d 1085, 1090 (Fed. Cir. 1995). "When the prior art teaches away from combining certain known elements, discovery of successful means of combining them is more likely to be nonobvious." *KSR*, 550 U.S. at ___, 82 USPQ2d at 1395. Here, a person of ordinary skill in the art, upon reading the Related Art Fig. 1 reference, would be discouraged from recording data on the optical disc in a non-fully blanked mode when using the incremental recording mode. As discussed at paragraph 0007, "to use the Incremental Recording mode, one must either use a new optical disc or, in the case of a previously recorded disc, perform a Full Blank operation." Therefore, the Related Art clearly teaches against using a Minimally Blanked disc in an Incremental Recording mode, particularly as the present invention of claim 1, for example, provides a solution to the problem of the Related Art – that one is not able to use a Minimally Blanked disc in an Incremental Recording mode.

Further, neither Mato nor Motohashi, alone or in combination, suggest that data is recorded on the optical disc upon determining that the disc is not formatted, then data ranging

from a next writable address to a predetermined block is erased after the disc is determined to be a Minimally Blanked disc, and then finally recording a remainder of the data other than the recorded data after the erasing. The present invention thus partially records data and then records a remainder of the data after data ranging from a next writable address to a predetermined block is erased. Neither Mato nor Motohashi discuss an incremental recording mode (in which data is partially recorded) and neither Mato nor Motohashi suggest erasing data ranging from a next writable address to a predetermined block and then recording a remainder of the data other than the recorded data, after the erasing.

The Examiner concedes that Motohashi does not disclose recording a remainder of the data other than the recorded data after erasing of data ranging from a next writable address to a predetermined block, but alleges that “[i]t would have been obvious to one of ordinary skill in the art at the time the invention was made that modifying the teachings of Motohashi to record a remainder of the data other than the recorded data, after the erasing would yield a predictable result, [and] that [o]ne of ordinary skill in the art at the time the invention was made would have recognized that the modification would improve similar methods in the same way.”

M.P.E.P. § 2143 clarifies that combining known prior art elements is not sufficient to render the claimed invention obvious if the results would not have been predictable to one of ordinary skill in the art. *United States v. Adams*, 383 U.S. 39, 51-52, 148 USPQ 479, 483-84 (1966). In the present invention, by erasing data corresponding to 1 ECC block and then recording a remainder of data after the erasing, the present invention of claim 1, for example, has an unpredictable result. As discussed at paragraph 0030 of the present specification, the reason the data corresponding to 1 ECC block is erased from the next writable address is to prevent the data confusion and the coincidence (overlapping) of a recording area and a border area. Thus, the reason is to smoothly perform the Incremental Recording mode even on the optical disc that is in the Minimal Black state. Thus, by erasing data from a next writable address to a predetermined block and then recording a remainder of data other than the recorded data, the result is that data confusion and the coincidence of a recording area and a border area is avoided. Modifying Motohashi as suggested provides results that would not have been predictable to one of ordinary skill in the art.

Additionally, the cited apparent reason to combine the Related Art, Mato and Motohashi of “in order to easily and correctly find the final packet of the track” is not an apparent reason with rational underpinning as to why one of ordinary skill in the art would have combined the

teachings of the Related Art, Mato and Motohashi to suggest the features of independent claims 1 and 4.

Therefore, as the combination of the teachings of the Related Art, Mato and Motohashi does not suggest “checking a state of the optical disc in a recording management area in which disc information is recorded; erasing, after the checking and after recording the data, data ranging from a next writable address to a predetermined block upon determining that the optical disc is a Minimal Blank disc in which data is erased from the recording management area to a lead-in area; and recording a remainder of the data other than the recorded data, after the erasing,” as recited in independent claims 1 and 4, claims 1 and 4 patentably distinguishes over the references relied upon. Accordingly, withdrawal of the §103(a) rejection is respectfully requested.

Also, the combination of the teachings of the Related Art, Mato and Motohashi does not suggest “checking a recording management area to determine whether the optical disc is Fully Blanked or Minimally Blanked after the recording, the disc indicating to be Minimally Blanked when a value ‘04’ is designated at a field 0 of the recording management area, the disc indicating to be Fully Blanked when a value ‘04’ is not designated at the field 0 of the recording management area; [and] erasing, after the checking, data from a portion of the optical disc that may lead to a recording or read out error upon determining that the optical disc is Minimally Blanked,” as recited in amended independent claim 5. Therefore, claim 5 patentably distinguishes over the references relied upon. Accordingly, withdrawal of the §103(a) rejection is respectfully requested.

Claims 2, 3 and 7-9 depend either directly or indirectly from independent claims 1 and 5 and include all the features of their respective independent claims, plus additional features that are not discussed or suggested by the references relied upon. For example, claim 3 recites that “the erasing comprises recording, after the checking of the state, data from a next address upon determining that the optical disc is a Minimal Blank disc in which data is erased from the recording management area to a lead-out area.” Therefore, claims 2, 3 and 7-9 patentably distinguish over the references relied upon for at least the reasons noted above. Accordingly, withdrawal of the §103(a) rejection is respectfully requested.

Conclusion

In accordance with the foregoing, claims 1-5 and 7-9 are pending and under consideration.

There being no further outstanding objections or rejections, it is submitted that the application is in condition for allowance. An early action to that effect is courteously solicited.

Finally, if there are any formal matters remaining after this response, the Examiner is requested to telephone the undersigned to attend to these matters.

If there are any additional fees associated with filing of this Amendment, please charge the same to our Deposit Account No. 19-3935.

Respectfully submitted,

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